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- Franklin's New Ace 2000 Computer
- The Correspondent, Program For Mod 4
- Do Surge Protectors Protect?
- Robotics Column

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# ATARI

## Applying The Atari

by Jeff Brenner

With Thanksgiving Day this month and the holiday season approaching, lots of you will appreciate this month's feature program — a recipe manager/calculator. This month's column also brings the *Mailing List* additions that I promised and ties up some loose ends on the numeric keypad program.

### New Listings

Whenever a lengthy program is listed in this column, I get letters complaining about the difficulty of typing them in. One clever reader, John M. Doyle (Atlanta, GA), even sent in a miniature letter to make his point (see *Letter 1*).

### Newsletters

Two more Atari users' groups newsletters came in the mail recently. The S.T.A.T.U.S. Newsletter is printed by the Southside Tidewater Atari Technical Users Society (4836 Honeygrove Road, Virginia Beach, VA 23455). The CAUG Newsletter is printed by the Charlotte Atari Users Group (5911 Brookhaven Road, Charlotte, NC 28210). Both of these users' groups participate in a newsletter exchange program — they will send a copy of their newsletter to any group that sends in its newsletter. This is a great idea as it allows groups to exchange information and ideas and to see what is going on with other Atari users' groups across the country.

### Info From Readers And Beyond

The mail for this month brings answers and updates to all the questions published in September's column. Jim Cassout had asked about the driver routine to make his printer more compatible with Atari-Writer. I suggested a "Printer Formatted Data Disk" from At-A-Glance. Thanks to Gordon C. Willis (Morehead City, NC) for informing me that the original author of the printer driver routines is making them available for \$10 each, postpaid. Gary W. Furr (P.O. Box 1073, Mountain View, Ca 94042) has driver routines for over 60 printers. If you have been unable to get a printer driver for your particular printer, there's a good chance that Mr. Furr will have one that's compatible.

Darwin K. Garrison's letter had asked about a genealogical program for Atari computers. Thanks to Leo H. Kordsmeier, Jr. (Little Rock, AR) and to Al Crespo (Bakersfield, CA) for writing to tell me about *The Family Tree* by Harry Koons. Mr. Crespo says that "you can record and access six generations and save up to 24 generations on one disk." The program also lets you print out your pedigree charts. *The Family Tree* is \$19.95 plus \$3.00 shipping from Antic Publishing (524 Second Street, San Francisco, CA 94107). Additionally, Dan Sweda (Brookville, OH), treasurer of the A-BUG-BYTE users' group, says

his group has a genealogical program available for \$5.00, postpaid. That's from A-BUG-BYTE (10790 W. National Road, Brookville, OH 45309).

In September's column, Terry Joslin asked how to access the full 128K RAM on the Atari 130XE. Atari itself provided the answer by sending me the DOS 2.5 disk, which contains a routine that lets you use the 130XE's extra memory as a RAM disk. Unlike DOS 3, DOS 2.5 supports both single and enhanced density modes and is compatible with DOS 2. DOS 3 owners can obtain DOS 2.5 by sending the DOS 3 diskette to Atari (Atari Customer Relations, P.O. Box 61657, Sunnyvale, CA 94088). There is no charge for the swap. The DOS 2.5 diskette also contains a utility to convert DOS 3 files to DOS 2.5, so your DOS 3 files can be made fully compatible with DOS 2.5. A small booklet, included with DOS 2.5, summarizes the various options available on DOS 2.5. More detailed instructions are in the *ATARI DOS 2.5 Manual* available from the Atari address above for \$10 plus \$2.50 shipping.

### Atari 130XE Word Processors

In addition to a utility on the new DOS 2.5 diskette that allows the use of the Atari 130XE's full memory, two 130XE-compatible word processors should be available this month. *AtariWriter Plus*, from Atari, contains a 48K/64K version on one side of the diskette and a 128K version on the other side. It features a built-in spelling checker, a mailmerge data base, double column printing and a printer driver editor so you can make the program compatible with your printer. It's under \$50. *PaperClip*, from Batteries Included (17875 Sky Park North, Suite P, Irving, CA 92714), will be available in a 130XE version. For \$10, owners of the 48K *PaperClip* can trade it in for the 130XE version.

### Numeric Keypad Problem Resolved

In the July and August columns, I published three programs for the numeric keypad. While the programs worked fine on the older Atari 400 and 800, there was a problem on the XL and some XE ma-

chines. The ESC key was being read as a zero. Strike one. In my haste to correct the problem and to end a flood of letters from readers who "tried typing in the program eight times on two different computers and with three different keypads," I published in October's column what I believed to be a simple solution. A little further testing however, revealed that this did not completely fix the problem — any key pressed after the ESC key would be read as the-ESC key. Strike two. I get one more chance, right? This time I am presenting a completely rewritten keypad program that will read the ESC key perfectly. In addition, the new program allows the numeric keypad's keys to respond better, so we're not just making corrections — we're making improvements! The new keypad program responds to a key that has been pressed before the previous one had been fully released. This could happen if you entered,

say, the numbers four, five, and six in a row very quickly. As soon as the previous key is released, the character for the new key is displayed. On the older keypad programs, any key pressed before the previous one was released would be ignored.

The program listed under *Keypad Program 3* takes the place of Program 1 and Program 2 in July's column. To make Program 3 read the Y key as a comma (as Program 2 did so that you can enter data lines easily), change line 160 to:

160 Data 32

*Programmable Keypad Revision* contains the lines to be changed on August's *Programmable Keypad* program for this correction. If you're using *Program Perfect*, first enter lines 90 through 220. When *Program Perfect* erases itself from memory, LIST "C:" (for

Continued on page 180

## Good News For Atari ST Owners

by W. Rostek

You may remember last month's article, where we voiced concern about Atari having some quality control problems and limiting distribution of the new machines. We wondered just how available the machines would be because of Atari's marketing plan of only shipping to approved ST dealers, when at that time there were no approved ST dealers. Well, this month we have good news for all Atari ST users. Atari Corporation qualified a whole bunch of dealers, and they seem to have worked out their early QC problems. Also there have been some very interesting hardware and software developments.

The best news hardware-wise is that second disk drives are now available. In addition to the single sided drives that were known to be on the way, we also started seeing the double sided drives that give you over 700K of working room on a single disk. There still aren't any hard drives available, but several people are promising

they will be shipping "real soon." Of course we can't help but remember that these have been coming "real soon" ever since Atari started talking about the ST series, and we have not seen any yet. One stop-gap method if you must have more disk space is to use two double sided drives, giving you over 1.4 megabytes of free disk space.

If you aren't worried about voiding your warranty, and you're handy with a soldering iron there are some hardware modifications that may be for you. Instructions are available for piggybacking another half megabyte of RAM onto your 520 ST, which would bring the machine up to a full Megabyte! You can also find instructions for adding a battery back-up circuit for the clock. We have also seen instructions for adding an IBM 5¼ drive to the system. The instructions for these mods are floating around the country on various BBS's and you should find them by checking with your local BBS

Continued on page 173

This illustration shows the size of the letters in the "Computer Shopper" column. The letters are small, but the text is large enough to be read.

August 13, 1985

Dear Jeff,

I suspect this is a little hard on your eyes, but I wonder if you realize how very, very small the listings in "Computer Shopper" suddenly become when it's time to type it in! —Especially the three-letter codes that precede the lines!

I'm in the process of having in "RAM", and had to redo several lines, not because of a code error, but because it is almost impossible to tell the difference between the three-letter codes.

Your comments and programs are very interesting. I have been an Atari fan for close to four years and know just enough about programming to be dangerous.

I'm one of the on-camera guys here at The Weather Channel (based in Atlanta), and believe me, doing NATIONAL weather will certainly give me a broad outlook. I'm an afternoon and evening, Eastern time. Tune in if you have a chance.

Keep up the great programs... and ENLARGE those listings!

Sincerely,

John M. Doyle

### Letter 1 (Actual Size)

As I have mentioned in the past, after I submit the program listings for publication, they're at the mercy of the editorial department, which shrinks listings to fit into the available space. *Program Perfect* was developed to help readers enter programs accurately despite the small size, but apparently the smaller *Program Perfect* codes become almost unreadable when they are reduced. This month, I have implemented two changes in the program listings: The *Program Perfect* codes are larger than usual, and the program lines have been spaced further apart. Let's hope this makes program entry a little easier until we can get more space for listings. If any readers have other suggestions for making the listings more readable, please let me know.

# I Own An Atari 520ST Computer

by Clay Houston

I am not impressed with the delivery schedule of the 520ST as my original estimate was as early as April 1; APRIL FOOL! Finally, on August 19 I got THE CALL to bring money. Some of my friends had either went through a computer club or ordered the black and white monochrome monitor and got theirs three weeks earlier, but that didn't

really make any difference. There was no software available. The package contains the System disk and a Logo disk which allowed a little playing with our new toy. One of my friends just put his back into the box until some acceptable software arrived. As a member of both CONTACT, the Atlanta ATARI Users' Group and the Atlanta Computer Society I do get in on some "official" rumors. I

did, however, buy my unit through the local Atari retailer, Versatile Video of Dunwoody Village because there was not that much difference in price, I already had a deposit down, and they take care of the 90 over-the-counter warranty. The CONTACT user group received a letter the "the BASIC language would be shipped the first part of September" and reiterated that "the OS ROM chips would indeed be supplied when ready, FREE OF CHARGE." I know the BASIC language applies to all of us purchasers and assume the CHIP does too. As disappointed as I am about the delivery schedule and the software availability, the ATARI 520ST looks like it's going to be a FANTASTIC computer!

## Development Package

The first thing I did was to order the 520ST Development Package from Atari. I did this by sending a \$300 money order along with my computer SERIAL NUMBER to Atari Corporation, 1196 Borregas

Avenue, Sunnyvale, California 94086, ATTEN: Richard Frick. The package contains five disks including a 'C' compiler, an assembler package and about 2000 pages of documentation. It takes about three weeks for delivery of the pack. Because I was not sure how long the package would take to get here, I also ordered the Haba 'C' package. More on this later.

## Getting Set-Up

The hardware package was complete and hooked up with no problems. I have the \$1000 package which includes 520ST, the SF354 single sided 3 1/2 inch disk drive, the SC1224 color monitor, the mouse, two power supplies, a small instruction manual, and all cables necessary to make it all run.

I hooked it up and turned on the power with the system disk installed. It began to boot. After a little whirring a green display with white border came up. Three ICONs, two floppy disks and a trash can appeared on the left side. On the upper left there are four words: DESK, FILE, VIEW, and OPTIONS. The Mouse controls a little arrow, when touching these words, deploys a menu. I touched "Desk" and a drop-down menu appeared. Then I moved the arrow down to "Control Panel," and then pressed the left Mouse button. And behold, the panel layout that allowed me to pick the screen colors, the time delays, etc. I placed the arrow on the upper left hand corner of that display at the X-box and clicked, behold, it disappeared and the baseline menu returned. I then arrowed the top floppy ICON, clicked the Mouse and the ICON turned black. Moving the arrow to "File" and down to "Open" and clicking el Mouse, a busy little "bee" appeared followed by a list of files on that disk presented as

ICONs as shown in Figure 1. I stopped here to work on the printer cable so I could get some copies to study.

## Interfaces

Next I configured two cables. The first one was to my Epson MX-80 printer. Currently, having an Atari 800 interfaced with an ATR 8000 which uses a card-edge printer connector, I had to start from scratch. Both the 520ST and the MX-80 uses the Centronics 25 pin connector. I was able to find them at a local electronic parts store at a reasonable price and I had some old round cable. Being rather sloppy about soldering, I really hated to tie \$1000 to \$500, ie, computer to printer. I admit that I was sloppy, but did a careful continuity check with the volt-ohm meter to assure that there were not cross-connections and success; it worked the first time. I wanted to work on the RS-232 next but just had to experiment with the printer.

## Printer Dumps

Now having the printer available I tried the screen dump buttons. This is done by pressing the CONTROL and the HELP keys at the same time. Behold, Figure 1! I put the arrow on the upper left X-box and the screen returned to the baseline.

## Screen Control

Then back through the DESK and CONTROL PANEL followed by the CONTROL, HELP key and behold Figure 2 which appeared in a variety of colors. Using the Mouse various adjustments can be made (and saved) to the baseline layout. You can place the arrow on the time, click and type the current time of day, click again and an updated time is presented continuously. The date is done the same way. You can adjust the

Continued on page 178

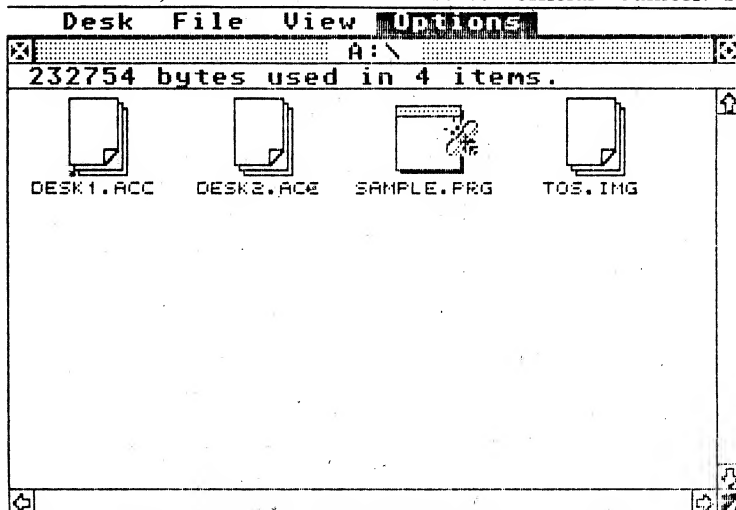


FIGURE 1

# Jackintosh Logo

by Frank Tymon

## Introduction

LOGO has never been so easy! Atari and Digital Research have integrated LOGO with GEM and hosted the result on the Atari 520ST computer. The combination is a user - friendly implementation of a familiar language.

LOGO implementations differ from machine to machine. The Atari version likewise has its own idiosyncracies. These are primarily driven by the existence of 520ST peculiar capabilities. The capabilities include the GEM operating system, the Mouse, and the specific drop-down windows developed for this system.

We'll return to these a little later in the review. But first lets consider the version of LOGO implemented on this system. Atari LOGO. As a matter of interest, the Atari Manual furnished identifies the version of LOGO as Atari LOGO, the LOGO dialogue screen reflects the words, "DR LOGO FOR GEM."

Regardless of credits the product is an impressive combination. Fortunately the LOGO commands corresponds closely to those shared by other com-

puters. However, there are differences. These are partially the result of the developers' perspective, partly due to the influence of GEM.

## Arithmetic Operations

The arithmetic operations provided encompass the usual +, -, \*, /, as well as exponentiation. The usual trigonometric functions are included, as are such standards as INT, LOG, ABS, ROUND, etc. RANDOM is provided as well as RERANDOM (which reproduces the previous random sequence). Radian to degrees and vice versa are provided.

## Condition And Control

The condition and control functions adhere closely to the mainstream of LOGO implementations. The exact instruction may be a little different. For example, Atari LOGO uses BYE instead of GOODBYE.

## Miscellaneous

Atari LOGO has a straightforward procedure copy routine, COPYDEF. It also has a suffix, P, widely used which results in return of a true or false. For example, NUMBERP "2 would return

the value TRUE.

PATH AND SETPATH are used to identify the current disk drive and to change to an alternate one.

CATCH and THROW identify special conditions and respond to their existence.

## Graphics

Graphics operations correspond closely to those in other LOGOs. There are differences associated with the use of GEM. I'll consider some of these later when we walk through a typical turn-on procedure.

One difference in the Atari LOGO is access to the turtle. The position, the Mouse buttons' conditions, and the position relative to the viewport can all be monitored.

## Walk-Through

There is no attempt here to cover all the Atari LOGO instruction set. Suffice it to say that there is a great deal of flexibility built into the instruction set. Some of this is illustrated in the following paragraphs.

Loading and using LOGO is easy. The GEM pull-down and pop-up windows display much

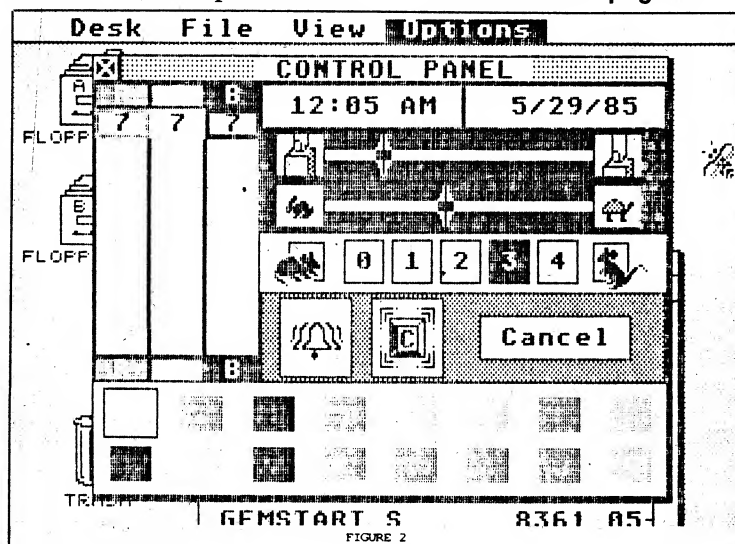


FIGURE 2

Continued on page 172

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### Jackintosh Logo Continued from page 64

of the information you need to use system functions. Where practical they prevent you from making accidental mistakes. Where mistakes may result from a wrong decision they often give you a chance to change you mind. Maybe you don't need it, but it frequently saves me from trouble.

So lets leap into the fray. Power up the display, disk, and computer. Quickly the disk unit whirs and Atari symbols cover the screen, in black, with a background of changing colors, and shades within each color. Messages follow. The first message block directs that the systems disk be installed. Then a second block tells you to position the mouse pointer and to click the left button.

Being obedient by nature and habit -- after years of Mom's training -- I insert the 3½" disk and move the mouse to position our pointer. By the way, the mouse doesn't need a lot of room. If your space is cramped, merely pick it up, reposition it, and continue moving the pointer. Pressing on the left button causes the Atari pattern to go through its shennanigans, and we soon see

a green screen with 2 drawers and a trash can displayed. Above this drear scene are 4 entries: Disk, File, View, and options.

We are now ready to go for LOGO. Following the instructions in the furnished manual results in the language being loaded into the system. Be thankful! Many companies produce manuals which are not that valid!

With reference to the Atari LOGO manuals I think it is well done. My version appears to be a preliminary product, so the fancy touches such as slick covers and the like are missing. But the contents are sound. They are organized more as reference than as a tutorial, but provide the essential information the users need. Admittedly, it is necessary to dig at times.

Paraphrasing the LOGO manual, we enter the language as follows:

Using the mouse position the pointer over the drawer icon labeled "B."

Press the left button on the Mouse.

The icon turns black, and you should now press twice, rapidly, the left Mouse button.

A pop-up block now tells you to insert disk B into drive A. Insert the LOGO disk,

move the Mouse pointer to the OK entry on the pop-up, and press the left button.

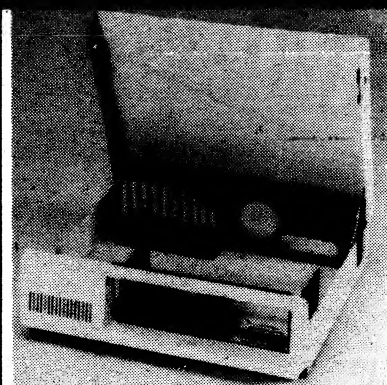
At this point the icons for the LOGO entries are displayed. Ignore those which have a corner dog-eared and position the Mouse pointer over the icon identified as "LOGO.PRG". Again press the left button. When the icon turns black rapidly press twice the left button.

By the way, it seems easier to get a rapid double press of the button if you place your index finger at the edge of the button farthest from you. I really get down to the nitty-gritty when I write about this stuff!

Our screen now has a number of interesting entries. Across the top are such goodies as Desk, File, Run, Edit and Settings. Below this the screen is divided into a left- and a right-hand block. The right-hand one has the label, "GRAPHICS DISPLAY" across the top, and our turtle symbol in the center. The left-hand one has "LOGO DIALOGUE," and below "DR LOGO FOR GEM!" A "P" and cursor mark are below and to the left.

Continued on page 174

## COMPUTER CASE

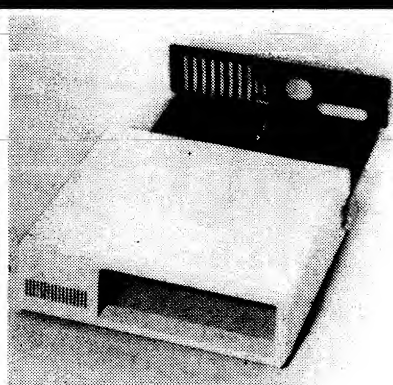


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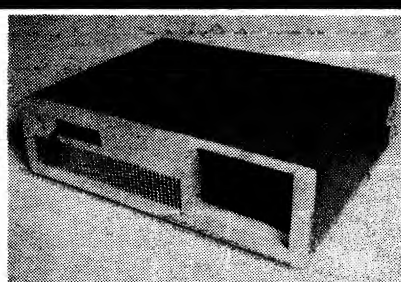
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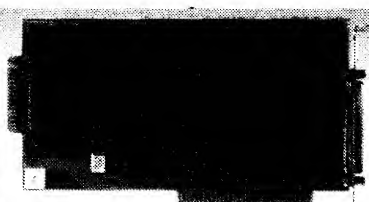


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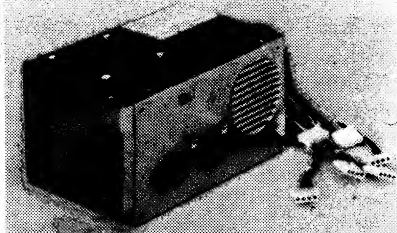
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### Good News Continued from page 63

to find the nearest board that has them.

For somewhere around \$60 and a couple of hours work, you can have more memory in your machine than I ever dreamed would be needed. The RAM upgrade requires sixteen 256K DRAMS, and there are many companies that advertise here in the *Computer Shopper* at good single quantity prices of less than four dollars per chip. We have already ordered enough to modify our STs. As soon as our RAM chips get here we'll upgrade our STs. We will let everyone know how well it works. We will also pass along news on any and all problems we may run into. This mod is not for the faint of heart, the 256K DRAMS are very sensitive and easily damaged. It's a good idea to order extra chips just in case...

We are not going to do the battery backup yet because the current version of TOS loads a default time and date whenever the system is booted, writing over any date and time that may be there. It doesn't make a lot of sense to add battery backup if the OS is just going to trash the correct time and date on every boot. This is supposed to be fixed before TOS is committed to ROM. At that time the battery backup is much more attractive. And we will add it to our machines, with time and date stamping of files, it will be much easier to keep track of the latest rev of all our files. We found some instructions for adapting an IBM 5 $\frac{1}{4}$ " drive to work with the ST. Since the Atari uses the IBM disk format this should be a good way to get a lot of source code into the machine. As always, this doesn't mean that the ST can run IBM programs, but you can transfer data files. Since 5 $\frac{1}{4}$ " disks cost less than half of the 3 $\frac{1}{2}$ " disks, you may be able to save a considerable amount of money if you have a lot of files. If you

use as many disks as we do this is an important consideration. We do expect the price of the 3 $\frac{1}{2}$ "s to keep dropping and there are modem programs available for both the Atari ST and the IBM-PC that allow you to exchange files. In the near future there may be little reason to add a 5 $\frac{1}{4}$  drive unless you are the president of a computer club, or have some other reason to move lots of disks between the two formats. We are using the double sided drives for most of our work, and will be picking up a hard drive as soon as we can, so we won't be doing this mod. If

anybody does it, we would be interested in hearing about it.

Of course, the best hardware and all the drives and memory in the world won't do you any good unless you have some software to run on them. Good news here as well, software is showing up in the retail stores. While there are not the hundreds of programs the mature machines have, the STs have only been out for a month now. Think back to when the Apple Macintosh was released, how long did Mac users have to wait before they had anything besides MacWrite and MacPaint. Not to mention

the fact that they couldn't get a second drive for love or money. And the early IBM-PC owners had an even worse time trying to get software. So we can't complain too much about having to wait a **WHOLE MONTH** for third party software and additional drives to hit the stores.

One of the first companies to port their programs to new machines is Infocom, luckily for us the STs are no exception to this rule. There are three of the Infocom adventure games available for the ST: Wishbringer, ZORK I, and Hitch

Hiker's Guide to the Galaxy. These are all excellent adventures, and it won't be long until the entire line of Infocom games are ready for the ST. Though we must admit that Bill hasn't finished Hitch Hiker's yet, but he has only been working on it for two months off and on. Bill's trouble with Hitch Hiker aside, (Bill refuses to make maps when playing adventure games) we have yet to see a bad adventure game from Infocom. Almost impossible yes,

Continued on page 176

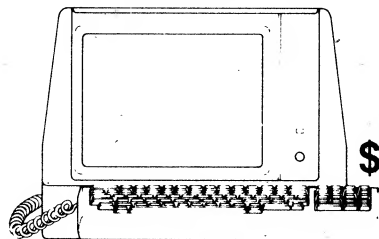
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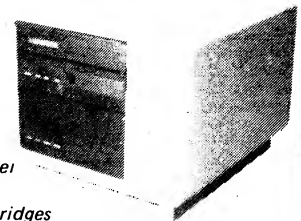
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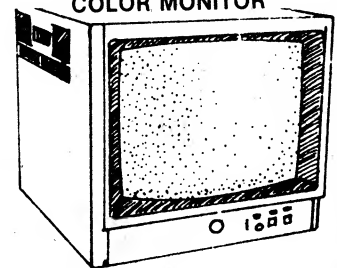


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## Jackintosh Logo Continued from page 172

Entries at this point are essentially in the immediate mode. For example, if you enter FD 50 and press return the turtle moves forward 50 units, leaving a trace behind it. Try it, you'll like it!

Of course, you can also develop procedures here. Merely start the sequence with TO DO and conclude it with END. Generally it is more con-

venient to go to the EDIT mode when developing procedures. You can enter the EDIT mode by typing in the direction of EDIT or by using the Mouse and the Edit pull-down window. I try typing in the entry first. LOGO EDIT quickly appears in the lower left of the screen.

Two problems come to mind. First, how do I get out of EDIT mode? Well, a simple way is to position the Mouse pointer on the Edit entry at the top of the screen. A window is

displayed with the possible options listed. Some of these are in black, while others are in hatched entry. Only the black entries are accessible. The first of these is Save Edit. Placing the Mouse pointer here and clicking the left button saves the procedure, and returns us to the dialogue screen. A second method is to merely hold down the CONTROL key and enter C.

You can clear any drop-down window by placing the Mouse pointer in a blank area and clicking the left button. It automatically clears when you make a valid choice among those offered. If while in EDIT mode, you move the Mouse pointer to any adjacent drop-down window it will show only grey entries. You must get out of Edit before using them!

The second problem which came to mind is the cramped space in the tiny Edit block. To correct this place the Mouse pointer at the upper right corner of the LOGO EDITOR block, click the left button, and stand back! The LOGO EDITOR now fills the entire screen. The same approach can be used to expand other screens.

Almost all the Edit window entries have alternatives, involving the use of the CONTROL key and other keys. This is not true, however, of all other windows available. Ac-

tually, most functions can be implemented using the LOGO statements. Often, however it is much more convenient to use the windows. So one must learn to use them when it is appropriate. Fortunately, they are almost self-explanatory.

The CONTROL PANEL, selectable by the DESK drop-down window, has interesting capabilities. Time and Calendar Date can be entered. Responsiveness of the repeat function (all keys will repeat) can be set. Similarly, responsiveness of the Mouse can be adjusted. The sound level associated with the keys can be modified. And the shades of the colors can be changed by varying the red/green/blue mix. It is interesting to go to extremes with the CONTROL PANEL settings and note the results. Fortunately, you can always return to the default value -- so long as you don't save the new readings.

Generally positioning the Mouse pointer at the CANCEL block in the window and clicking the left button returns you to the default settings and deletes the window from the screen. This doesn't work that way for the CONTROL PANEL window, so to clear I move the Mouse pointer to the upper left hand corner of the CONTROL PANEL window display and click the Mouse pointer.

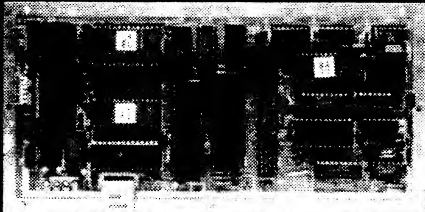
Our Graphics Display block is a drab whitish-grey with the drawn lines black. To introduce brilliance to the turtle's peregrinations we need color. The SETTINGS window allows us to select GRAPHICS and reset the background, line, and fill characteristics. To do this we need to know the numeric value of the desired entry. This is unfortunate, since the appropriate approach would have been to display colors, patterns, width, etc., and to allow the user to choose. Nevertheless one can experiment and view the results before deciding on a final choice.

Continuing our Walk Through while in the EDIT mode, we now develop a procedure, typing the usual TO XX as the first instruction line. The subsequent entries follow essentially the same pattern as in other LOGOs. When the routine is completed either a CONTROL C, or a SAVE from the EDIT window captures the program and returns us to the Immediate mode. Entering the program title causes the routine to run.

If our program is generating a graphic display in the right-hand block we can fill the screen with this activity by placing the Mouse pointer at

Continued on page 178

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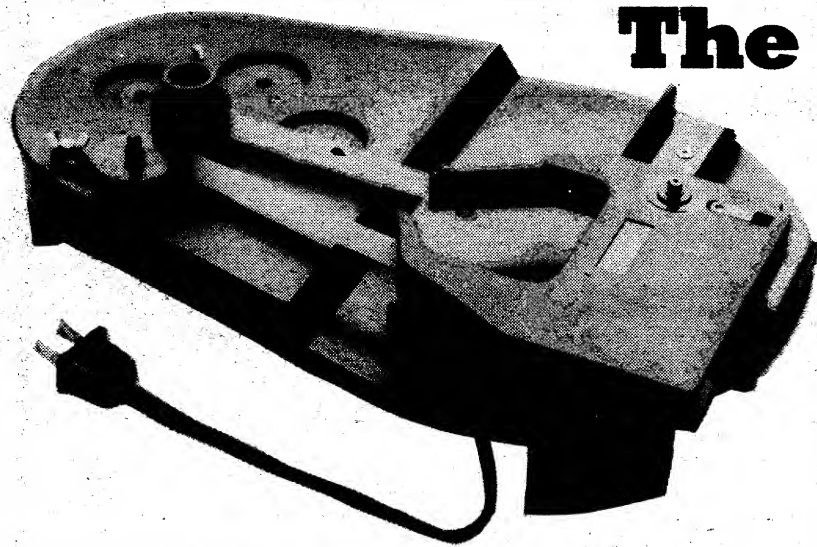
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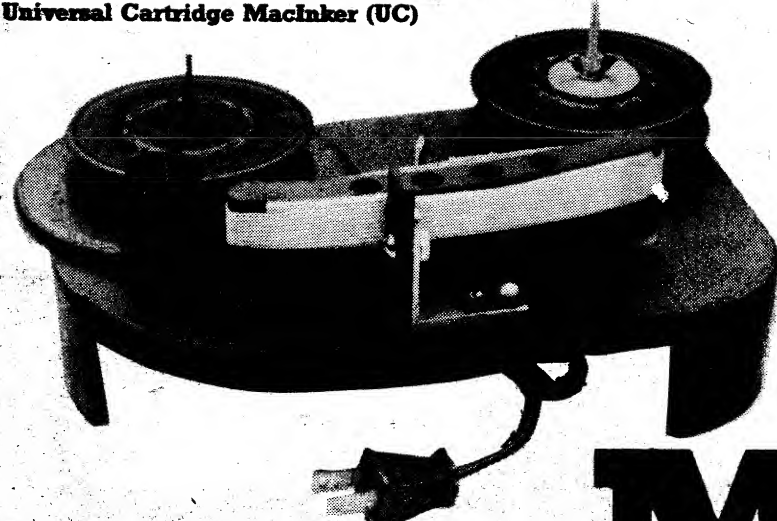
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### Good News Continued from page 173

bad no. If you are new to adventure games start with Wishbringer, and work your way up to the harder ones. If you're not new to them or are very sure of your problem solving ability, Bill highly recommends Hitch Hiker's Guide to the Galaxy (even if he can't figure out how to get by the

screening door). One hint on Hitch Hiker's, it helps to have read the book before playing the game. It's not mandatory but it does help.

If word processing, not game playing, is your major interest, you may want to look at Express from Mirage Concepts Inc. It retails for approximately fifty dollars. Mirage calls Express a "letter processor," not a word processor. Missing from

Express are some of the advanced WP features such as search, search and replace, multiple windows, etc. Express is designed mainly for doing small jobs of one to ten pages, so they only incorporated the most commonly used features. This design allows a novice user to start cranking out good looking letters and documents in less than a half hour.

Express has two basic modes, Typewriter, and Word Processor. In the typewriter mode Express emulates a memory typewriter which prints a line every time the carriage return is hit. Corrections can be made on a line only before carriage return is hit. This lets you get text to the printer as quickly as possible. This is an excellent feature for addressing envelopes, filling out forms or jotting quick notes.

The Word Processor mode is the heart of Express. While not full featured it does have enough features to be very useful. It lets you cut and paste, bold and underline, merge documents, delete by characters, line, paragraph, or the entire document, format, and print. The WP of Express resides completely in memory, and the file you're working on must be in memory as well. This means that Express is extremely fast on most text modifications. But because you must have TOS and Express in memory, you only have enough free RAM for a 30-35 page file. When you fill up the

available space Express tells you that it's out of room and lets you write the file to disk. This limitation will vanish when TOS becomes available on ROM. Or if you decide to upgrade your 520 to one megabyte of RAM. Won't your gloating "Fat Mac" friends be green with MacEnvy.

Two other nice features included in the Express package are a mailing list and a terminal mode. The mailing list allows the user to create a disk file of names and addresses. To be used in creating customized mass mailings, Express provides ten data fields:

0. Name
1. Title/Institution
2. Address
3. City
4. State
5. Zip
6. Code/Country
7. Phone
8. Salutation
9. Alternate Phone

These are all entered on a mailing list form that is displayed on the screen. A very powerful feature of Express is that it lets you sort your data file as it is printing the mass mailing. For example, you can print letters to every James on your data file. You can also print letters to everyone whose zip code starts with 32. This is one of the best features of the program.

Express's terminal mode allows you to transfer and receive files with your ST. The file transfer is limited to ASCII files only, using the

XON/XOFF protocol. There are some problems with the terminal program. It doesn't seem to like you to use lines in excess of eighty characters. When you do, the program doesn't wrap properly. Instead, it blows up and throws you back to the desk top. The other problem is more serious: Express seems to hate 1200 baud. This may be because of something we are doing wrong. If any one knows a work around please let us know. In all fairness, the ST is not an easy machine to write terminal packages for.

We can see where Express is a very useful tool for someone who isn't going to do a large amount of word processing. Mirage bills this package as a letter processor and that's what it is. Bill tried to write his sections of this article with it and gave up after two pages and went back to the editor he was accustomed to. We see two problems with Express: the command format, and the way the text is displayed on the screen.

The main problem we see with the display is that Express shows a less than symbol (<) on the screen to show where a carriage return has been inserted. They also didn't take advantage of Atari's bit mapped screen to display boldface or underline. Instead they used the standard method of displaying a special character

Continued on page 178

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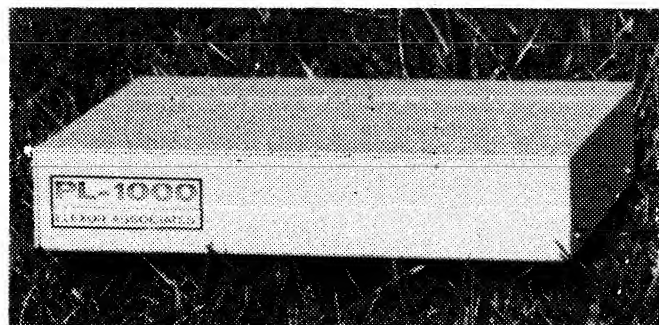


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### Jackintosh Logo

Continued from page 174

the upper right and clicking the left key.

To save our program to a disk file we place the Mouse pointer over the FILE position, and choose the SAVE AS option. A pop-up block appears, allowing us to name the file which we are saving.

A vertical bar shows the left edge of our title. However, to add our suffix if used we can press the ".". This moves our cursor to the first position to the right of the period.

Position the Mouse pointer at the OK block and clicking the left key once saves the program on disk, and clears the SAVE AS pop-up window from the screen.

This has been a very simple WALK-THROUGH. There are a wide and varied assortment of possibilities to explore.

#### Key Areas

Graphics capability, particularly the turtle, is an eye-

catching part of any LOGO implementation. And Atari LOGO is no exception. Drawings are quick and distinctive, easily accomplished with keys or using the Mouse. The color display does an excellent job in the quality of the hues and in the degree of resolution. The Mouse, with some simplistic programming, is an excellent drawing tool.

Wordlist operations can be carried out effectively and rapidly with the provided set of instructions. Words and lists correspond to those normally found in the language. Recursive entries are, of course, supported. When carried to an extreme the stack may become full. The stack may, however, be expanded by the programmer.

Window operation seems to be excellent in support of LOGO. Although I prefer the capability to select through displayed examples, the approach taken here is viable. Overall the window operation seems to have been well

thought-out.

The Mouse responds well, but takes a little getting used to. After you feel comfortable with it you may find yourself reaching for it even when the instructions could just as easily be typed in. You don't require a lot of space to use the Mouse, since you can quickly pick it up and reposition it if it reaches an obstacle. It definitely is supportive of the LOGO usage.

#### PROs and CONs

I have used the LOGO language on several computers. I find some of the other versions more comprehensive and more friendly, perhaps due in part to familiarity. However, when the capabilities provided by the Mouse and the windows are considered the Atari version may be preferable. Nevertheless the latter does have some faults. Some statements - The ARC statement, for example -- are not too convenient to use. There is no provision for accessing the sound capability of the system. Nor is there a method provided to set and use the function keys. An assembly language capability is not present. Finally, there is a need for a tutorial to accompany the documentation.

It may well be that the current version of the language -- as well as the Operating System -- is not the final one. I read of the possibility of both being provided in firmware form. If this occurs the versions encoded may well correct such deficiencies as I've noted.

#### Summary

Atari LOGO is a usable and exciting version of LOGO. It is not as comprehensive as some versions, but this is at least partly offset by the inclusion of the Mouse and the Windows. In the final analysis its value depends on the use to which you intend to put it.

#### Good News

##### Continued from page 176

enclosing the affected text. This means formatting on the screen a little off from the finished document.

The command format uses control keys to enter most commands. This is fine but it looks like they picked their commands at random. Control-N erases all text, Control-Y removes a paragraph, Control-V deletes a line, etc. Also the format paragraph requires you to have blank lines between paragraphs or you get very unreliable results. Of course part of our problem with the commands is that we are used to a different set and, like most people, we don't want to have to learn a new set. Although if you have trouble remembering the commands all you need to do is hit help and they are displayed for you.

All in all, we feel that Express is a useful tool for small jobs. Not that you couldn't do a large document with it, but it's not really designed for them. Give Mirage Concepts credit for coming right out and calling this a letter processor. Also we like the fact that the

program isn't copy protected. Nothing is more frustrating than having a program you use regularly die and having to wait a few weeks to get another copy. Also on the plus side is that Express is quick to get started with, which makes it very useful to the occasional user.

The only other program we have been able to use extensively is Chat from SST systems. We hesitate to write about it because SST is our company and we wrote Chat. But we have been getting a lot of calls from people wanting to know what Chat does and how well it works. So we are going to write about it to answer these questions, just bear in mind that we do have a biased opinion.

Chat is a modem program for that Atari ST series of computers. It auto-dials if you have a Hayes compatible Smartmodem, transfers files using XMODEM and XON/XOFF protocol, has text capture and a special upload message mode. Both protocols run at either 300 or 1200 baud. There is a built-in phone directory

Continued on page 179

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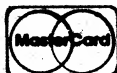
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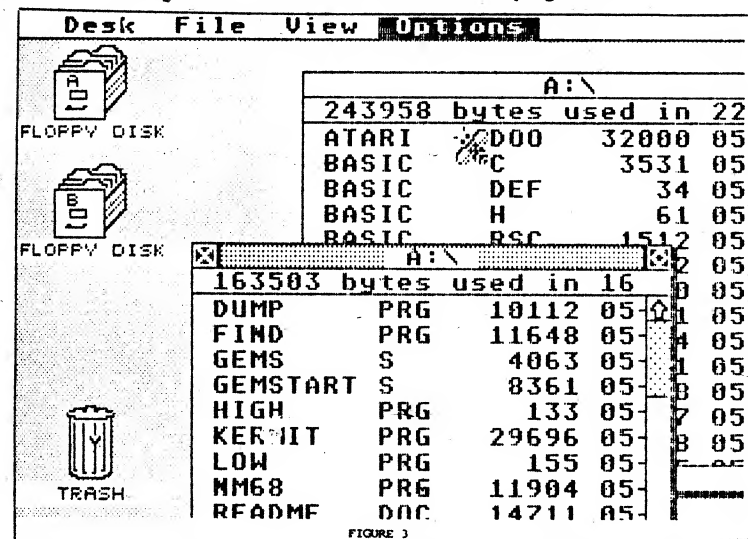
window around just be placing the arrow on the shaded portion on the top of the panel box, holding down the button, moving the arrow (followed by a box outline) to the new desired location. Then letting the Mouse button up, the Control Panel window moves there in a timely manner. Now I wanted to return the first menu so I placed the arrow on the X-box in the upper left corner of the panel and one-clicked the Mouse. Back to Figure 1.

#### Window Relocation

While I was doing this, my

Continued on page 179

## I Own an Atari Continued from page 178

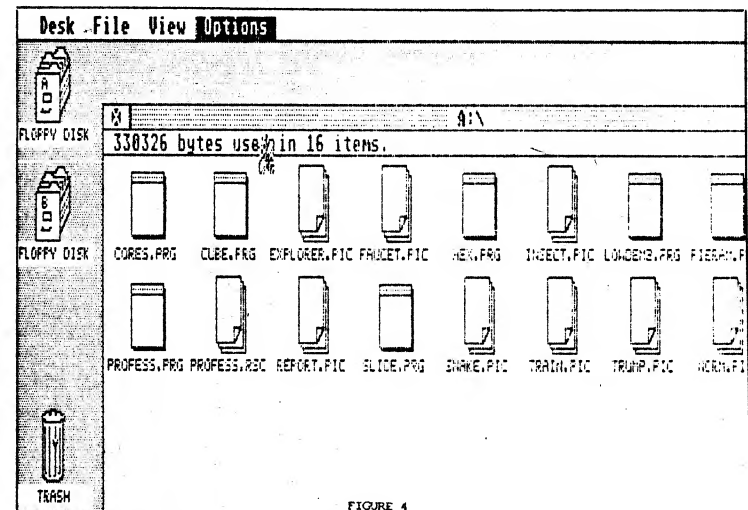


right slash-box holding down the Mouse button I move the box-outline to make Number TWO directory smaller. At this point, I did the CONTROL, HOME printer bit which created a dump of the screen as seen in the Figure 3 we have been discussing. By the way, by still having the first directory on the screen, you can move the arrow to the previously shaded upper bar, one-click the Mouse and the first directory appears on top of the second one.

## Printer Installation

My first screen dump was junk. I had to go back to DESK followed by INSTALL PRINTER to get to the various built in options. With my Epson MX-80 printer, the only default I had to change was from 1280 to 960 pixels/line. You can option and save printer type, B/W or color, pixels/line, Quality (draft or final), Printer Port (printer of modem) and Paper Type (feed or single). Each of you will

Continued on page 185



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## Probots and People Continued from page 77

with my computer?" And, for some, the most intriguing question to be answered might be "how can I make a million dollars in personal robots like so many people did with personal computers back in the 1970's?"

## Where You Can Learn More

Even though this forum on personal robotics should be interesting and a lot of fun, you might want to learn more about the subject on your own until next month. Most book stores don't have a section on "Robots," but I would suggest exploring the following:

-The technical book section of a bookstore

-Robotics Age magazine, available at many newsstands

-Contact publishers or manufacturers directly, like: Tab Books, Inc. (Blue Ridge Summit, PA), Axlon, Inc.

(Sunnyvale, CA), Tomy Corporation (Carson City, CA), Heath Company (Benton Harbor, MI), Howard W. Sams (Indianapolis, IN)

Next month we'll be looking into the hottest-selling toy in the world right now: transformable robots. Believe it or not, these inexpensive playthings will be a key element in the slowing emerging personal robot revolution that we'll all be enjoying over the next five to ten years.

Tim Knight publishes *Personal Robotics Magazine* and is the President of Robot Center, the first personal robot store in the Silicon Valley. He also wrote the first book dealing with personal robots, *Probots and People: The Age of the Personal Robot*, from McGraw-Hill. You can write him at P.O. Box 61046, Palo Alto, CA 94306-1046. •

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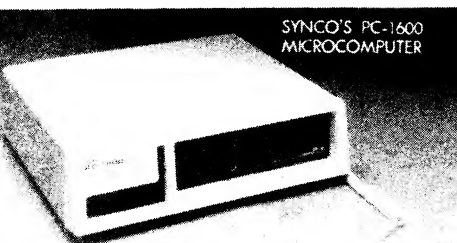
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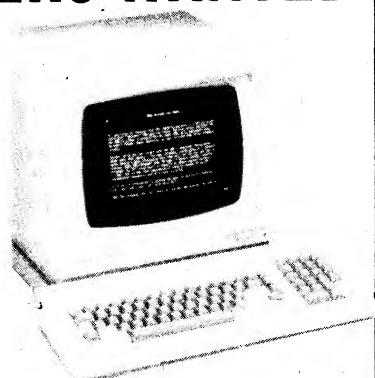
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## Applying the Atari Continued from page 63

cassette) or LIST "D:TEMP" (for diskette) the program. Next, load in the old Programmable Keypad program. Type ENTER "C:" or ENTER "D:TEMP" and the new lines will automatically be merged with the old program. Now you can SAVE the revised program on cassette or disk.

### Mailing List Enhancements

June's Mailing List program has generated an enormous amount of interest, and this month we have additional routines for this program to make it even more practical.

Part I contains changes that are to be made in existing lines. Load the original Mailing List and type in the lines listed in Part I. Part II contains lines to be added to the program. Type in these lines. Once Part I and Part II have been entered,

LIST "C:" or LIST "D:TEMP" the program.

Now, enter lines 1380 through 1800 listed under Part III. If you have Program Perfect, you can use it to enter these lines. When all lines have been entered, ENTER "C:" or ENTER "D:TEMP" the rest of the program to merge it with Part III. Now you can SAVE the complete updated Mailing List, which we'll call Mailing List II.

### Using Mailing List II

Now, when adding names, you won't have to constantly respond to the "MORE NAMES (Y/N)" prompt. The program will automatically assume that you are adding more names. When you are finished adding names, press the ESC key and you'll be returned to the main menu.

You'll notice on the menu the addition of another option — SEARCH. When you

choose this option, another menu appears which asks if you want to search by name, street, city or zip code. The name search functions the same as it did on the original program. However, whenever a name (or street, city, or zip) is found, you are asked if you want to edit that entry or if you want to continue searching for another match. With any search, you can enter only a part of what you want to find and the program will pick out all items that match that part. For example, if your address is 10 MAIN STREET, but you can't remember whether it was 10 MAIN STREET or 10 MAIN ROAD, just enter "10 MAIN." All address entries beginning with "10 MAIN" will be displayed one at a time. This technique can also be used when searching by zip code. Searching for the five digits of a zip code will also display any nine-digit codes that match those first five digits.

When searching for an entry, remember to use the same format, (all-capitals or capital and lower-case letters), as you used when you originally entered the entry. For example, if you search for "Computer Shopper," the program can not find "Computer Shopper," so be sure to stay with one form or the other.

Another feature added is a six-digit identification code. This code is actually composed of the byte and sector number of the location on the disk where the particular name and address is being stored. Hence, by referring to the six-

digit code, the program can instantly access any name on the disk without having to look through each name.

Whenever you choose the LIST NAMES option from the main menu, each name will be listed with its respective six-digit code. You could then jot down codes that you want to refer to later.

When you select the EDIT option, Mailing List II will ask you if you want "CYCLE or ID#." The CYCLE option works as it did before — it lets you move back and forth among the addresses on your disk with the "▲" and "➤" keys. You can freely change information on the names and addresses as you move through the entries. The ID# option enables you to enter the six-digit code to gain instant access to a particular name/address.

The PRINT option now has two additional features. You can enter an ID# from which to begin printing address labels. Hence, if you only want to print labels for, say, the last ten names you have entered, you would simply enter the six-digit code for the tenth to last name/address. Additionally, you're given the option of printing the six-digit codes on the labels themselves. Many mailing list programs used by businesses have this feature. A client who responds to a mailout is asked to give his code numbers, or to return a form with this code number printed on it. When the business receives the response, the number can be used to instantly call up the client's file, or to generate a new label.

### Recipe Program

This month's feature program is *Recipe Manager*. *Recipe Manager* can store your favorite recipes in electronic form. As you browse through recipes on your screen, you can pick one and print it on the printer. Two additional features will be added to the program next month, as there was not enough room to include them this month. (Those who request a diskette of this program will receive the entire program in one part.) The two features that will be listed here next month are the FIND CATEGORY/RECIPE option, which lets you search for a particular category of recipe or recipe name, and the CALCULATE RECIPE option. This interesting option will automatically double, triple, halve, etc. The measurement of ingredients of any recipe so that you may instantly adjust recipes for different quantities. You can then print out the recalculated recipe and take it into the kitchen. If you select these options with this month's listings, you'll get a "THAT COMMAND IS NOT AVAILABLE YET" message.

Use Program Perfect to type in *Recipe Manager*. Since the program stores recipes on the diskette, you'll want to save the program on a blank diskette so you'll have as much room as possible for storing recipes.

When you RUN the program, you'll get a specially designed Graphics 0 screen. The top two and bottom two text lines are dark, while the remaining lines are blue. The blue center is where the recipes are typed. This is a mini-screen in itself, consisting of 20 lines of 36 characters each. The top two lines display the *Recipe Manager* title and the particular menu function currently being used. The bottom two lines are prompt lines and tell you what keys are active (i.e. PRESS RETURN TO PRINT THE RECIPE) or special messages (i.e. NO RECIPE FILE ON DISK-ADD RECIPES). These lines also display the menu options: ADD, BROSE/EDIT, FIND, PRINT, CALCULATE. The ADD, BROWSE/EDIT and PRINT options can be used with this month's listing.

When you run the program for the first time, you'll want to add recipes. When you press A (for ADD) the cursor moves to the recipe screen and you're asked to enter a CATEGORY. Type the category that you want to place the particular recipe in, such as appetizers, soups, main dishes, holiday recipes, etc. Next you're asked

### KEYPAD PROGRAM 3

```
FOJ 10 REM NUMERIC KEYPAD PROGRAM #3
KFJ 20 REM COPYRIGHT 1985 JEFF BRENNER
JWJ 30 TOT=0:FOR I=1536 TO 1616:READ NUM
OQJ 40 POKE I,NUM:TOT=TOT+1:NUM=NEXT I
TDJ 50 IF TOT=136774 OR TOT=136785 THEN A=USR(1536):END
FBJ 60 PRINT "ERROR - CHECK DATA":END
PFJ 70 DATA 164,162,6,166,16,169,7,76
QWJ 80 DATA 92,228,174,132,2,246,5,292
UKJ 90 DATA 134,284,246,48,174,126,2,228
WSJ 100 DATA 286,288,4,165,284,288,29,165
WCJ 110 DATA 285,246,4,198,285,246,21,238
XVJ 120 DATA 284,134,286,238,285,173,113,2
QPJ 130 DATA 281,1,246,2,162,16,189,63
PLJ 140 DATA 6,141,252,2,76,98,228,52
HJ 150 DATA 24,29,27,35,51,53,48
XNJ 160 DATA 43
MRJ 170 DATA 31,36,26,56,34,12,14,28
BEZ 180 DATA 155
```

### PROGRAMMABLE KEYPAD REVISION

```
MVT 90 IF TOT=136785 THEN A=USR(1536):GOTO 250
KZJ 110 DATA 164,162,6,166,16,169,7
NWJ 120 DATA 76,92,228,174,132,2,246
ONJ 130 DATA 5,282,134,284,246,48,174
MYJ 140 DATA 128,2,228,286,288,4,165
PAJ 150 DATA 284,288,29,165,285,246,4
SQJ 160 DATA 198,285,246,21,238,284,134
QJJ 170 DATA 286,238,285,173,113,2,281
LJ 180 DATA 1,246,2,162,16,189,63
JZJ 190 DATA 6,141,252,2,76,98,228
HLJ 200 DATA 52,24,29,27,35,51,53
HDJ 210 DATA 48,43,31,36,26,56,34
RVZ 220 DATA 12,14,28,155
```

### PART I

```
140 RESTORE 160:FOR I=1 TO 6:READ A$:PRINT CHR$(ASC(A$)+128);A$(2,LEN(A$))
160 DATA ADD NAMES,EDIT,LIST NAMES,PRINT,FREE DISK MEMORY,SEARCH
210 PRINT :ON I GOTO 230,650,1040,1120,1350,1380
370 IF K=27 AND C<2 THEN 610
600 IF K=27 THEN 630
690 PRINT E$:"CYCLE OR ID# (C/I)?":GET #1,Q:PRINT CHR$(Q):IF Q=67 THEN 710
700 IF Q<73 THEN PRINT CHR$(156):GOTO 680
940 GOSUB 1740:INPUT #2;S,B,NAME$,ADDR$,CSZ$,CAT$
970 FOR I=LEN(NAME$) TO 1 STEP -1:IF NAME$(I,1)=CHR$(32) THEN NEXT I
990 PRINT "FOUND":GOTO 1640
1000 PRINT "NOT FOUND":GOTO 1090
1050 GOSUB 1740:NOTE #2;S,B:INPUT #2;I,NAME$,ADDR$,CSZ$,CAT$
1070 PRINT "ID#":ID$:PRINT NAME$:IF PEEK(764)=28 THEN 1100
1240 GOSUB 1740:INPUT #2;S,B,NAME$,ADDR$,CSZ$,CAT$
1270 IF Q=0 THEN NAME$=NAME$:ADDR$=ADDR$:CSZ$=CSZ$:GOTO 1285
1340 NAME$=NAME$:TRAP 1330:Q=0:GOTO 1285
```

### PART II

```
45 DIM ID$(6),ID2$(6)
295 CC=0
345 IF PEEK(85)=34-M AND K=156 THEN PRINT CHR$(K);
355 IF K>47 AND K<58 THEN 330
375 IF K=27 THEN POKE 84,15:POKE 85,2:GOTO 480
702 TRAP 680
705 PRINT "ENTER 6-DIGIT ID# ":INPUT #3;A$:IS=VAL(A$(1,3)):IB=VAL(A$(4,6))
706 POINT #2,IS,IB
935 TRAP 1000
945 NAME$=NAME$:ADDR$=ADDR$:CSZ$=CSZ$
975 FOR I=1 TO 1 STEP -1:IF NAME$(I,1)=CHR$(32) THEN NEXT I
1175 PRINT :PRINT "PRINT FROM WHAT ID# (0=START)":INPUT ID$
1176 ID1=0:IF LEN(ID$)=6 THEN ID1=VAL(ID$(1,3)):ID2=VAL(ID$(4,6))
1185 PRINT :PRINT "PRINT ID NUMBERS (Y/N)":INPUT Q$:IF Q$="Y" THEN VB=VB-1
1235 IF ID1>0 THEN POINT #2,ID1,ID2
1265 IF Q=0 THEN ID2=ID$
1275 IF LEN(NAME$)=0 THEN ID2$=ID$
1282 IF Q<>"Y" THEN 1290
1285 PRINT #5;SP$(1,5);ID2$;SP$(12);IF Q THEN PRINT #5;SP$(1,HB+5);ID$;
1286 PRINT #5
```

### PART III

```
DUJ 1380 TRAP 670:OPEN #2,12,0,FILE$:NOTE #2,IS,IB
MGJ 1390 CLOSE #5:OPEN #5,4,0,FILE$:INPUT #5;FS,FB,FS,FB
WSJ 1400 FOUND=0:PRINT "SEARCH BY:RESTORE 1420:PRINT :FOR I=1 TO 4:READ A$
CJJ 1410 PRINT CHR$(ASC(A$)+128);A$(2,LEN(A$)):PRINT :NEXT I
BJJ 1420 DATA NAME,STREET,CITY,ZIP
TNJ 1430 POKE 694,0:POKE 702,64:PRINT CHR$(156):"SELECT: ":GET #1,B
VDJ 1440 IF Q=78 THEN 890
TRE 1450 IF Q<83 AND Q>67 AND Q<98 THEN 1430
EAE 1455 PRINT :PRINT "FIND: ":INPUT #3;A$:POINT #2,IS,IB
DPJ 1460 TRAP 1710:NOTE #2,ST,BT
QUE 1470 GOSUB 1740:INPUT #2;S,B,NAME$,ADDR$,CSZ$,CAT$
MNE 1475 NAME$=NAME$:ADDR$=ADDR$:CSZ$=CSZ$
ZAJ 1480 IF Q<83 THEN 1530
MEJ 1490 A=ASC(ADDR$):IF LEN(ADDR$)<3 THEN 1505
GME 1500 IF A>47 AND A<58 OR A=32 THEN ADDR$=ADDR$(2,LEN(ADDR$)):GOTO 1490
ETE 1505 IF LEN(ADDR$)<LEN(A$) THEN 1460
QZJ 1510 IF ADDR$(1,LEN(A$))=A$ THEN GOTO 1460
FKJ 1520 GOTO 1460
ACJ 1530 IF Q<67 THEN 1570
LPJ 1540 FOR I=1 TO LEN(CSZ$):IF CSZ$(I,1)<>CHR$(32) THEN NEXT I
MNE 1550 IF I>1 AND I<LEN(CSZ$) THEN CSZ$=CSZ$(1,I-1)
GSA 1555 IF CSZ$(LEN(CSZ$))=CHR$(44) THEN CSZ$=CSZ$(1,LEN(CSZ$)-1)
DND 1560 IF LEN(CSZ$)<LEN(A$) THEN 1460
PIE 1565 IF CSZ$(1,LEN(A$))=A$ THEN GOTO 1460
FOE 1565 GOTO 1460
HXJ 1570 IF CSZ$(LEN(CSZ$))<>" " THEN 1590
AZJ 1580 FOR I=LEN(CSZ$) TO 1 STEP -1
JTJ 1590 IF CSZ$(I,1)<>" " OR CSZ$(I,1)>" " THEN NEXT I:GOTO 1460
XNJ 1600 FOR I=1 TO 1 STEP -1:IF CSZ$(I,1)<>" " THEN NEXT I:GOTO 1460
QEE 1610 CSZ$=CSZ$(1+1,LEN(CSZ$))
DEE 1615 IF LEN(CSZ$)<LEN(A$) THEN 1460
PKJ 1620 IF CSZ$(1,LEN(A$))=A$ THEN GOTO 1460
FMJ 1630 GOTO 1460
PMJ 1640 FOUND=1:PRINT "ID#":ID$
ANJ 1650 PRINT NAME$:PRINT ADDR$:PRINT CSZ$:PRINT CAT$:PRINT
VOE 1660 PRINT "<E>DIT, <C>ONTINUE SEARCH, <N>ENU?":GET #1,A:PRINT CHR$(A)
LME 1665 IF (Q=76 OR Q=78) AND A=67 THEN 940
WHJ 1670 IF A=67 THEN 1470
KZJ 1680 IF A=69 THEN PRINT CHR$(125):POKE 84,20:POINT #2,ID1,ID2:GOTO 730
YUJ 1690 IF A>77 THEN 1660
DHJ 1700 GOTO 130
KHJ 1710 IF FOUND=0 THEN PRINT "NOT FOUND":GOTO 1730
VOJ 1720 PRINT :PRINT "END OF DATA"
LEJ 1730 A$="PRESS ESC FOR MENU":GOSUB 640:PRINT A$:GOTO 1100
HVJ 1740 NOTE #2,ID1,ID2:ID$=""
JEJ 1750 IF ID1<100 THEN ID$=""
HNJ 1760 IF ID1<10 THEN ID$(LEN(ID$)+1)="0"
RNJ 1770 ID$(LEN(ID$)+1)=STR$(ID1)
JMJ 1780 IF ID2<100 THEN ID$(LEN(ID$)+1)="0"
HRJ 1790 IF ID2<10 THEN ID$(LEN(ID$)+1)="0"
LKJ 1800 ID$(LEN(ID$)+1)=STR$(ID2):RETURN
```

Continued on page 184

## RECIPE MANAGER

```

DAJ 10 REM RECIPE MANAGER
KFJ 20 REM COPYRIGHT 1985 JEFF BRENNER
VJG 30 DIM SP$(36),FILE$(15),FILE2$(15),A$(40),LF$(1),Q$(1),F$(20)
ORJ 40 DIM LINE$(36),DE$(2),CL$(60),MV$(2),S$(1)
JGJ 50 FILE$="D:\RECIPE.DAT":FILE2$="D:\RECIPE.PNT"
WYJ 60 A$=CHR$(32):A$(2,2)=CHR$(29):A$(3,3)=CHR$(30):S$=CHR$(32)
KAJ 70 CL$=A$:FOR I=1 TO 19:CL$(LEN(CL$)+1)=A$:NEXT I
EQJ 80 SP$(1)=S$:SP$(36)=S$:SP$(2)=S$:LF$=CHR$(155)
QJJ 90 DE$=CHR$(156):DE$(2,2)=CHR$(157):MV$=CHR$(30):MV$(2,2)=CHR$(31)
LFJ 100 OPEN #1,A$,0,"K":OPEN #3,A$,0,"E":OPEN #4,A$,0,"E":GOSUB 1620
BMJ 110 POKE 53277,3:POKE 53248,48:POKE 53277,0:POKE 53261,255
UIJ 120 POKE 53249,200:POKE 53262,255
DGJ 130 GOTO 1330
NVJ 140 GOSUB 1190:TRAP 610:OPEN #2,12,0,FILE$:SKIP=18
FUJ 150 IF IS=0 THEN NOTE #2,18,18:PRINT CHR$(125):GOTO 170
QVJ 160 POINT #2,18,18
TQJ 170 OPEN #5,A$,0,FILE2$:INPUT #5:X,X,F,B
VWJ 180 PRINT CHR$(125):GOSUB 1100:GOSUB 1190
DFJ 190 ST=IS:BT=IB:NOTE #2,18,18:INPUT #2:S,B
IGJ 200 FOR I=2 TO 21:INPUT #2:LINE$=INPUT #2,1:PRINT LINE$:NEXT I
XVJ 210 CC=0:POSITION 2,2:A=USR(1664):GOTO 300
RIJ 220 GOSUB 1100:A=USR(1664):GOSUB 1210:POSITION 2,2:POKE 752,0
SNJ 230 POKE 694,0:PRINT "CATEGORY: ";GOSUB 1240:INPUT #3:LINE$
OYJ 240 PRINT CHR$(28):DE$:LINE$
YQJ 250 PRINT "RECIPE NAME: ";GOSUB 1240:INPUT #3:LINE$
FAJ 260 PRINT CHR$(28):DE$:LINE$
LHJ 270 POKE 752,1:IF PEEK(85)>37 AND PEEK(84)=21 THEN POKE 85,37
REJ 280 IF PEEK(85)>37 THEN POKE 85,2:POKE 84,PEEK(84)+1
ASJ 290 IF PEEK(84)>21 THEN POKE 84,21
JEJ 300 SOUND 0,0,0,0:TRAP 1330
VMJ 310 POKE 694,0:CC=CC+1:POKE 752,0:PRINT MV$:GET #1,K:POKE 752,1
NBJ 320 IF K>31 AND K<60 THEN 580
PEJ 330 IF K>62 AND K<125 THEN 580
RDJ 340 IF EDIT=1 THEN IF K=60 OR K=62 OR K=27 THEN 1020
SNJ 350 IF K=27 THEN 730
EJJ 360 IF K<126 OR PEEK(85)>2 THEN 390
GWJ 370 IF PEEK(84)<3 THEN 580
HAJ 380 POKE 84,PEEK(84)-1:POKE 85,38:PRINT CHR$(K):GOTO 580
PEJ 390 IF K=30 AND PEEK(85)=2 THEN POKE 85,37:GOTO 270
OXJ 400 IF K=31 AND PEEK(85)=37 THEN POKE 85,2:GOTO 270
CWJ 410 IF K=127 THEN PRINT CHR$(K):IF PEEK(85)>37 THEN 410
EEJ 420 IF PEEK(84)>21 THEN POKE 84,21:PRINT MV$
UKJ 430 IF K<255 THEN 460
FXJ 440 PRINT CHR$(K):GOSUB 1200:POSITION 38,2:POKE 752,1:PRINT CL$
MOJ 450 POSITION X,Y:POKE 752,0:GOTO 270
SOJ 460 IF K=62 THEN 730
UJJ 470 IF K=125 THEN PRINT CHR$(K):GOTO 220
WVJ 480 IF K<156 THEN 510
SEJ 490 GOSUB 1200:PRINT CHR$(K):POSITION 2,21:PRINT CHR$(157)
AXJ 500 POKE 84,Y:GOTO 270
WSJ 510 IF K<157 THEN 530
BYJ 520 GOSUB 1200:POSITION 2,21:PRINT CHR$(156):POKE 84,Y:GOTO 580
OYJ 530 IF K=28 AND PEEK(84)=2 THEN POKE 84,21:GOTO 270
PAJ 540 IF K=29 AND PEEK(84)=21 THEN POKE 84,21:GOTO 270
FTJ 550 IF K=155 AND PEEK(84)=21 THEN 270
PTJ 560 IF K>27 AND K<32 OR K=155 OR K=126 OR K=254 OR K=61 THEN 580
BOJ 570 GOTO 300
JGJ 580 IF PEEK(85)=32 THEN SOUND 0,0,2,14
NTJ 590 PRINT CHR$(K):GOTO 270
JBJ 600 CLOSE #2:IF PEEK(195)=170 THEN 660
NVJ 610 IF EDIT=1 AND PEEK(195)=170 THEN 710
GWJ 620 POSITION 2,22:PRINT DE$:"ERROR *":PEEK(195):EDIT=0:GOSUB 1110
NOJ 630 POKE 752,1:PRINT
NRJ 640 IF PEEK(764)<>28 THEN 640
DNJ 650 GOTO 1330
INJ 660 OPEN #2,0,0,FILE$:CLOSE #2:OPEN #2,0,0,FILE2$
FOJ 670 PRINT #2:"0":LF$:"0":LF$:CLOSE #2
RUJ 680 GOSUB 1190:TRAP 600:OPEN #2,9,0,FILE$
APJ 690 OPEN #5,A$,0,FILE2$:INPUT #5:S,B:CLOSE #5
QGJ 700 PRINT CHR$(125):GOTO 220
QUJ 710 POSITION 2,22:PRINT DE$:S$:"NO RECIPE FILE ON DISK-ADD RECIPES"

```

Applying the Atari  
Continued from page 180

to enter the RECIPE NAME. Be sure to use capital letters only when entering the CATEGORY and NAME so that you will be able to search for a particular category or recipe.

Next, you get to type in your recipe. You can type anywhere you like on the recipe screen. A gentle beep will remind you

when you near the end of the line so you can press RETURN. You can put "Ingredients" and "Instructions" headings in wherever you want. All the Atari's editing keys work so you can quickly and accurately create your recipe "card." The screen space is ample for most recipes. For extra long ingredients' lists, you can shorten the instructions, or you can even put the same recipe on two or more separate "cards" — i.e. SUPERBURGER PART

1 and SUPERBURGER PART 2. Part 1 could contain the ingredients, and Part 2 could contain the instructions. In this way, your recipe space is virtually unlimited.

The only restriction you have when entering recipes is that quantities should always be at the leftmost side of the screen and in parentheses, such as: (2) pounds beef. This will allow the CALCULATE function (to be implemented next month) to change these quantities when multiplying or dividing recipes. To use fractions, use the slash (i.e. for one-half, type 1/2, not .5). For a value such as one and three-quarters, separate the whole number from the fraction with a space or other character, as in the following formats: (3 1/4), (3-1/4), (3 + 1/4), (3&1/4), etc.

Press ">" to enter the next recipe, or "ESC" when you've finished entering recipes.

The BROWSE/EDIT option lets you look through your computer recipe file by pressing the "▲" and ">" keys to move backward and forward, respectively. You can also change any recipe as you move through your file. All changes are recorded on the disk. If you find a recipe that you want to print, press the ESC key for the menu. Then press "P" for the PRINT option and the recipe is neatly printed with a centered title. If you again select the BROWSE option, you will be able to browse from where you left off. Happy cooking!

## Next Month

We'll get into more details on *Recipe Manager*, and enter the next part of the program. We'll also have some holiday programs.

Readers' questions, comments and original contributions are welcome. Please enclose a self-addressed, stamped envelope (SASE) for a personal reply.

A diskette of all programs listed in this month's column is available from the author for \$7.00, postpaid. Please specify your disk drive model.

Program Perfect is a utility used to check for typing errors while entering programs from this column. Readers may send a SASE for a listing or \$5.00 for diskette of this program.

Address all correspondence to:

Jeff Brenner  
"Applying the Atari 11/85"  
c/o Computer Shopper  
P.O. Box F  
Titusville, FL 32781-9990 ●

```

(continued)
UDJ 720 EDIT=0:GOSUB 1110:GOTO 630
ARJ 730 POKE 752,0:GOSUB 1190:IF EDIT=0 THEN IF K=27 AND CC<2 THEN 620
DJJ 740 IF EDIT=1 THEN POINT #2,18,18
LRJ 750 NOTE #2,S1,B1:PRINT #2:S,LF$:B:POSITION 2,2
XKJ 760 FOR I=2 TO 21:LINE$=SP$:POKE 84,1:INPUT #4:LINE$
XNJ 770 IF LEN(LINE$)<36 THEN LINE$(36)=CHR$(32)
LCJ 780 PRINT #2:LINE$:NEXT I
MQJ 790 IF EDIT=1 THEN RETURN
EQJ 800 S=S1:B=B1
XBJ 810 IF EDIT=0 AND K=62 THEN PRINT CHR$(125):GOSUB 1100:GOTO 220
NBJ 820 CLOSE #5:OPEN #5,0,0,FILE2$:PRINT #5:S,LF$:B:NOTE #2,S,B
UEJ 830 PRINT #5:S,LF$:B:GOTO 1330
VNJ 840 GOSUB 1110:POSITION 2,22:A$="RETURN":GOSUB 1000:POKE 752,1
CCJ 850 TRAP 990
SFJ 860 PRINT DE$:SP$(35):"PRESS":CHR$(32):A$:CHR$(32):"TO PRINT THE RECIPE"
PIJ 870 GET #1,K:IF K<>27 AND K<>155 THEN 870
UJJ 880 POKE 752,0:IF K=27 THEN 1330
QVJ 890 OPEN #7,8,0,"P:"
YVJ 900 POKE 84,2:INPUT #4:LINE$:PRINT #7:LINE$:PRINT #7
PMJ 910 POKE 84,3:INPUT #4:LINE$
MFJ 920 I=LEN(LINE$)
VOJ 930 IF I>2 AND LINE$(1)=CHR$(32) THEN LINE$=LINE$(1,I-1):GOTO 920
YSJ 940 PRINT #7:SP$(1,(36-I)/2):LINE$
DEJ 950 PRINT #7:SP$(1,(36-I)/2):FOR I=1 TO LEN(LINE$):PRINT #7:"-":NEXT I
CSJ 960 PRINT #7
ORJ 970 FOR I=4 TO 21:POSITION 2,1:INPUT #4:LINE$:PRINT #7:LINE$:NEXT I
GNJ 980 PRINT #7:LF$:CLOSE #7:GOTO 1330
ICJ 990 CLOSE #7:IF PEEK(195)<>5 THEN 620
SKJ 1000 POSITION 2,22:PRINT DE$:S$:"NO RECIPE ON SCREEN-BROWSE OR FIND"
VSJ 1010 EDIT=0:GOSUB 1110:GOTO 630
LIJ 1020 IF CC>1 THEN GOSUB 730
VYJ 1030 IF K=27 THEN 1330
IKJ 1040 IF S>0 AND K=60 THEN GOSUB 1190:POINT #2,S,B:GOTO 180
HDJ 1050 IF K=60 THEN A$="FIRST RECIPE IN FILE":I=1:GOSUB 1200:GOTO 210
GFJ 1060 NOTE #2,S1,B1:IF S1<F8 OR B1<F8 THEN 180
XZJ 1070 A$="LAST RECIPE IN FILE":I=1:GOSUB 1200:GOTO 210
JOJ 1080 FOR I=1 TO LEN(A$):A$(I,1)=CHR$(ASC(A$(I,1))+128):NEXT I
CWJ 1090 RETURN
PXJ 1100 CC=0:A$="RECIPE MANAGER":GOSUB 1000:POSITION 2,0:PRINT SP$(26):A$
MNJ 1110 POSITION 2,23:A$="ESC":GOSUB 1000
TKJ 1120 PRINT SP$(20):"PRESS":CHR$(32):A$:CHR$(32):"FOR MENU":POSITION 2,22
DGJ 1130 IF EDIT=0 THEN 1160
SKJ 1140 A$="<":GOSUB 1000:PRINT DE$:A$:S$:"MOVES BACKWARD":S$:A$
FNJ 1150 POKE 85,21:A$=">":GOSUB 1000:PRINT A$:S$:"MOVES FORWARD":S$:A$
QQJ 1160 POSITION 2,1:PRINT SP$
JFJ 1170 POSITION 2,1:I=LEN(F$):IF I/2>INT(I/2) THEN F$(I+1)=S$
UKJ 1180 PRINT SP$(1,(36-LEN(F$))/2):F$:POKE 752,0:RETURN
MRJ 1190 POKE 54286,64:POKE 710,148:RETURN
FRJ 1200 X=PEEK(85):Y=PEEK(84):RETURN
OAJ 1210 IF EDIT=1 THEN RETURN
NHJ 1220 POSITION 2,22:PRINT DE$:SP$(33):"PRESS > TO ENTER NEXT RECIPE"
CSJ 1230 RETURN
LBJ 1240 POKE 764,255
BZJ 1250 I=PEEK(764):IF I=255 THEN 1250
VHJ 1260 IF I=28 THEN POP:GOTO 730
CWJ 1270 RETURN
LBJ 1280 IF I=1 THEN GOSUB 1000
ULJ 1290 X=PEEK(85):Y=PEEK(84):POSITION 2,22
AMJ 1300 I=LEN(A$):IF I/2>INT(I/2) THEN A$(I+1)=S$
IJJ 1310 PRINT DE$:SP$(1,(36-LEN(A$))/2):A$
NMJ 1320 POSITION X,Y:RETURN
TWJ 1330 EDIT=0:GOSUB 1190:CLOSE #2:CLOSE #5:F$="MENU":GOSUB 1100:A=USR(1664)
VYJ 1340 POKE 752,0:POSITION 2,22:RESTORE 1330
SNJ 1350 DATA ADD,BROWSE/EDIT,FIND,PRINT,CALCULATE
RCJ 1360 FOR I=1 TO 5:READ A$:A$(1,1)=CHR$(ASC(A$(1,1))+128)
TUJ 1370 PRINT A$:CHR$(32):NEXT I
UQJ 1380 POSITION 2,23:PRINT DE$:SELECT:
IJJ 1390 POKE 694,0:POKE 702,64
KDJ 1400 GET #1,N:IF N<65 OR N>90 THEN 1400
HPJ 1410 Q$=CHR$(N):PRINT Q$
BUJ 1420 IF Q$="A" THEN F$="ADD RECIPES":GOTO 680
VGJ 1430 IF Q$="B" THEN F$="BROWSE/EDIT":EDIT=1:GOTO 140
ECJ 1440 IF Q$="F" THEN F$="FIND CATEGORY/RECIPE":GOTO 1730
GTJ 1450 IF Q$="P" THEN F$="PRINT RECIPE":GOTO 840
SBJ 1460 IF Q$="C" THEN F$="CALCULATE RECIPE":GOTO 1750
FKJ 1470 GOTO 1330
RBJ 1480 DATA 184,173,48,2,133,204,173
NKJ 1490 DATA 49,2,133,205,160,3,177
QWJ 1500 DATA 204,9,128,145,204,160,25
TFJ 1510 DATA 177,204,9,128,145,204,173
GRJ 1520 DATA 0,2,133,204,173,1,2
PDJ 1530 DATA 133,205,169,0,141,198,2
QYJ 1540 DATA 141,14,212,169,196,141,0
HHJ 1550 DATA 2,169,6,141,1,2,162
USJ 1560 DATA 192,173,11,212,201,128,208
ROJ 1570 DATA 249,142,14,212,94,72,173
QJJ 1580 DATA 11,212,105,1,106,106,106
UMJ 1590 DATA 106,144,245,141,10,212,141
PFJ 1600 DATA 10,212,173,198,2,73,148
WVJ 1610 DATA 141,198,2,141,24,208,104,64
IJJ 1620 POKE 559,0:DL=PEEK(560)+256+PEEK(561):FOR I=DL TO DL+8
NKJ 1630 POKE I-1,PEEK(I):NEXT I:POKE DL+8,0:DL=DL-1
GOJ 1640 H=INT(DL/256):L=DL-H*256:POKE 560,L:POKE 561,H
UBJ 1650 POKE DL+31,L:POKE DL+32,H:POKE 559,34
PJJ 1660 RESTORE 1480:PRINT "STAND BY..."
GZJ 1670 POKE 752,1:FOR I=1 TO 99:READ N
RRJ 1680 POSITION 13,0:PRINT 100-I:CHR$(32)
PXJ 1690 POKE 1663,I:N=TOT-TOT+1:NEXT I
MYJ 1700 IF TOT<>16577 THEN PRINT "ERROR - CHECK DATA LINES 2000-2130":END
HVJ 1710 POKE 16,64:POKE 53774,64:POKE 752,0
FSJ 1720 A=USR(1664):RETURN
GFJ 1730 POSITION 2,22:PRINT DE$:S$:"THAT COMMAND IS NOT AVAILABLE YET"
EJJ 1740 GOSUB 1110:GOTO 630
GFZ 1750 GOTO 1730

```

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## I Own an Atari

### Continued from page 179

have to select your own combination.

### Copying Disks

I learned how to copy a disk which is done by placing the arrow on the top (A) floppy and while holding down the floppy. Prompts help you through the copying process from then on. In learning, I inadvertently acquired a copy of the Atari Demonstration disk. Well naturally, I wasn't going to erase it so I ran some of the programs to see the capability of my new computer in COLOR! I was really impressed.

### Atari Color Demonstration

Figure 4 presents the directory of the demo disk in ICON format. The first thing I did after dumping this screen was to OPEN the PIERAM.PRG program by going through FLOPPY A, FILE, OPEN and double-clicking with the arrow on the program line. The busy-bee appeared and a pie chart of red, yellow, green, blue, and lavender. Then!!! the isometric pie sectors began to systematically separate presenting all of the sectors with proper shading. I was really impressed. All I did to switch was to press the Space-bar and back to the disk directory. I next double-clicked the SLIDE.PRG. This presented a sequence of fantastic color drawings of a map, a snake, a bee face, a horn, an explorer and a tran. The colors, resolution, and general drawings outstanding. I did not try to screen dump the slides because my black and white printer would not have done these graphic justice. This demo disk really wetted my appetite for getting into the programming effort. See Fig. 4 page 179

### Development Package

The development package I received was made up with five disks and five inches of paper, some of it double sided. The disks contain compilers, linkers, utilities, Resource Construction Set, and a text editor. I am getting a listing of the latter at this time so I cannot comment on it's effectiveness at this time. As you would gather, I am overwhelmed with software at this point. I have to go through the information one item at a time and try to digest the information.

I elected to start off simple. There is a program called "Doodle" which I loaded into memory by: arrow to floppy with one-click, then to FILE, OPEN and moving the arrow to DODDLE.PRG followed by a double-click. The program allows you to sketch us-

ing several colors and brush widths, one at a time. Figure 5 shows my first effort followed by a CONTROL,HELP screen dump. It's not a sophisticated paint program but it does do a little bit towards seeing the potential of the 520ST.

The next thing I took a quick look at was the Resource Construction Set. The best way to describe the function of this is that it is used to build all of the windows used in the GEM system. When starting it up, five resource partboxes are shown; the wide open (?) tree, the free tree, the menu, the

dialog, and the alert. The ICONs for these and the setup for the DOODLE program are seen as Figure 6. Figure 7 presents the partbox for the alert window. See Figs 6, 7 & 8 page 190

Now I got serious about building a window even though I didn't know where I was going to use it. I pulled in the free-tree partbox as can be seen on top of Figure 8. By placing the arrow on the desired ICON, holding the Mouse button down, dragging the outline to the desired location and releasing the button a

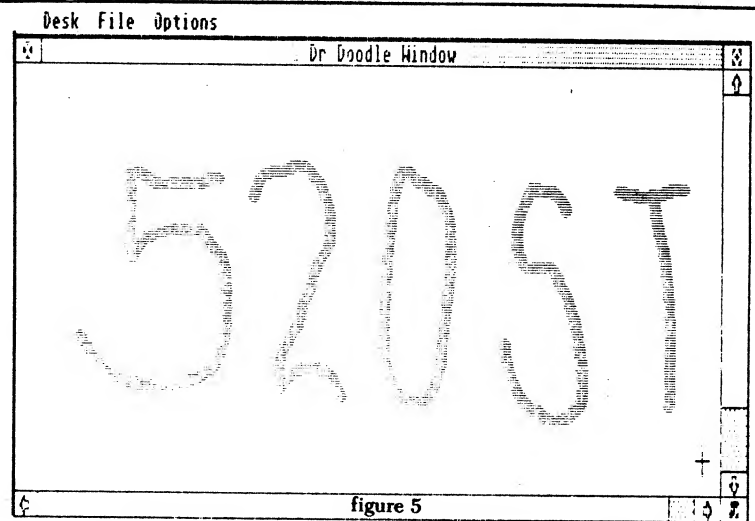


figure 5

Continued on page 190

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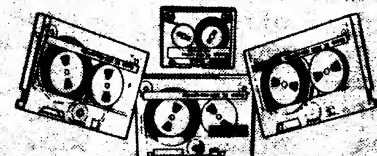
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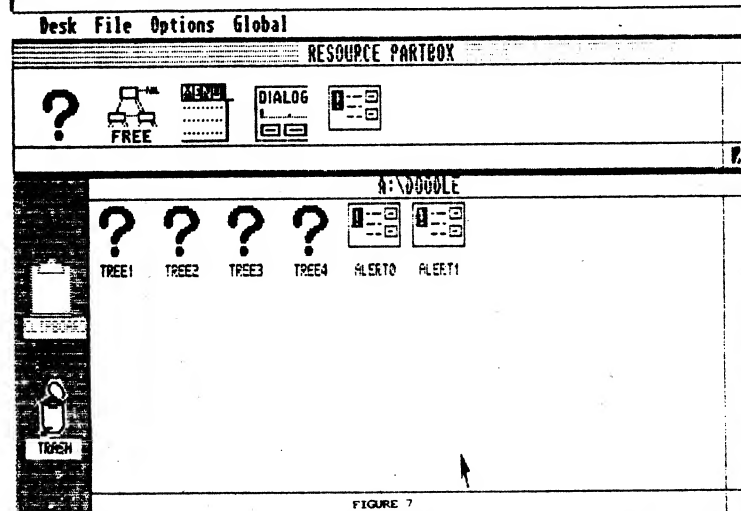
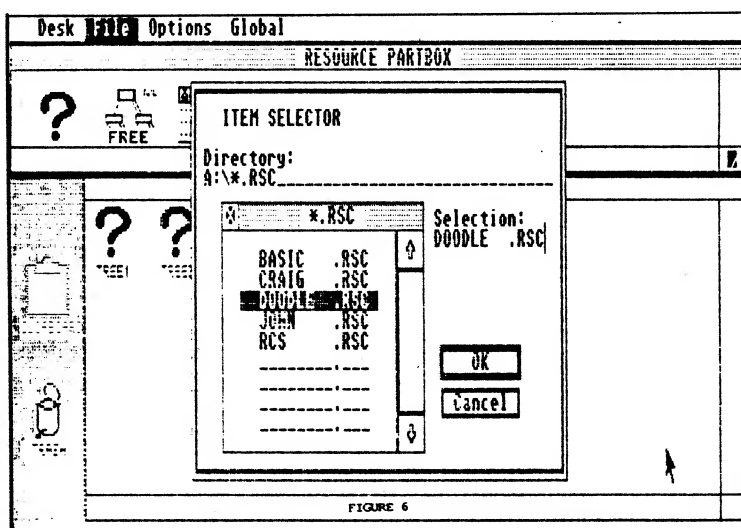
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C.O.D.

**I Own an Atari**  
Continued from page 185  
window is born! Then placing

the arrow on the newly created  
ICON, one-clicking, and the  
two-clicking a new menu ap-



pears. This one allows you to select background, border, colors, shadowing, the check, centered, and a bunch of other things for the selected symbol. I created a little window that might be used for a space shot. You can size each box and type in most anything you want and have your program to update the items if you wish. I was quite impressed again. I wanted to continue messing around with the various programs but really needed to read the material. The disks had a README document to be printed and the editor had a TUTORIAL of some 62 pages to be printed.

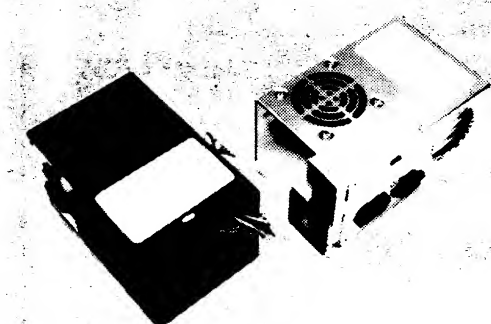
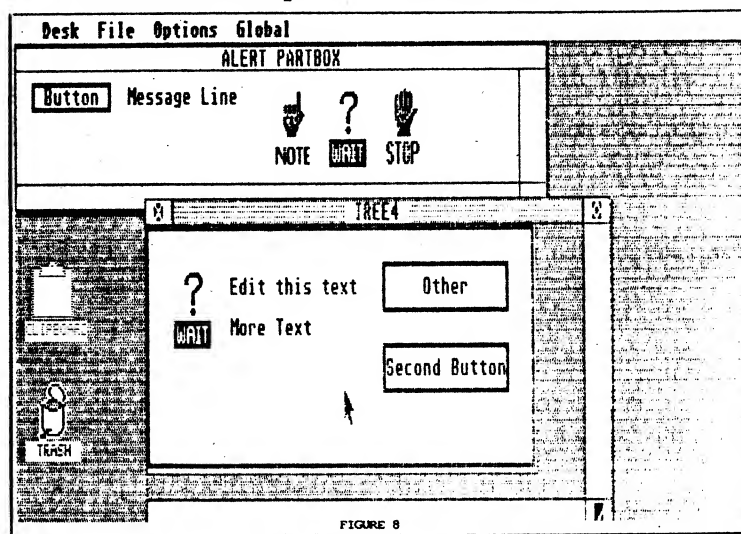
The five inches of paper that came with the Development

package contained about 2000 pages, much of it double sided. I'm not sure of the order to discuss the package but here goes. There's the Introduction to GEM Programming, GEM Setup Guide, A Hitchhiker's Guide to the BIOS, a GEM File (non-copyrighted work for free use), GEM Programmers Guide Vol. 1: VDI, Virtual Device Interface and Vol. 2: AES, the Application Environment Services. Vol. 1, the VDI has a software tool to re-design the Mouse arrow. That's high on my list of do-items. There is something called the LINE 'A' Document and Engineering Hardware Specification. There are addresses of the MIDI (Musical Instrument digital In-

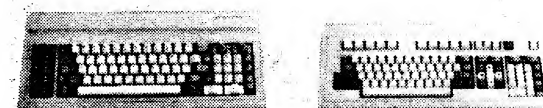
terface), Intelligent keyboard Protocol, Kermit Protocol Manual and the Kermit User Guide. There's something on Programmable Sound Generator and a massive amount of a Position independent DOS mover called RELOC. There's Digital Research's "C" Language Programming Guide and last but not least the CP/M-68K Operating system Programmers' Guide. With that many programs and this much literature, it has to be easily worth the \$300. I only hope my mind can absorb it all.

#### Overall Rating

I'm sure you noticed me using the word, "impressed" several times. That sums my feelings. Technically, the 520ST and associated equipment seem to be quite good. The current supply of software is poor but time will take care of that problem. I don't think it will be too long before it happens. Atari has been very responsive in correcting the minor hardware problems that a very few have had. Their attitude is good and I for one am willing to have faith in them that it will "all come together" in a short time. The product looks and acts good and I think it has the potential of the computer of the future.



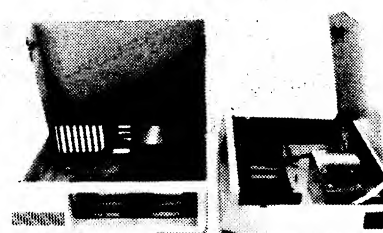
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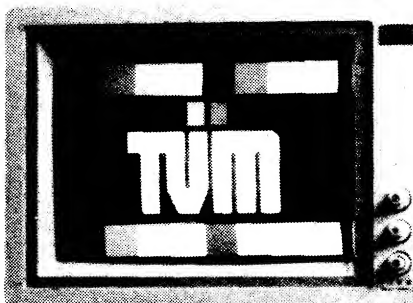
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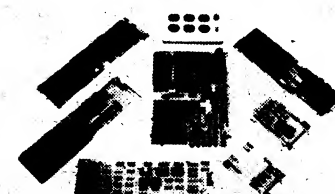
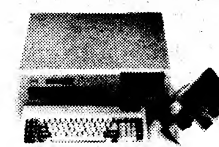


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